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POISONING BY NITRO-BENZOLE.

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M. P., æt. 26, single, longshoreman, was at work in the hold of a vessel, May 20th, when, shortly after 7 o'clock, A.M., a package of nitro-benzole sent up in the sling fell and burst, its contents being scattered about the hold, and a considerable quantity falling over his frock and shirt. As he stated, it "smelled fearful strong," but "didn't choke at all." Some of his fellow-workmen were obliged to leave the hold and go above for fresh air; but he, with some others, continued to work in the same place, although only one other remained as long as he.

The patient did not feel at all sick until after returning from his house at noon; but it was remarked that he looked "pale and blue" as early as 11 o'clock. He continued to work until nearly 3 o'clock, his companions several times telling him that he was looking very badly, when, growing sicker and "feeling heavy and dizzy in his head," he went to a liquor store near at hand for a glass of brandy, which was vomited soon after being taken. He then started out to find a doctor, but, growing worse, was finally helped home to his boarding place, having to sit down and rest several times on the way. Patient knew nothing more until he found himself at the hospital.

The barkeeper of whom he obtained the drink of brandy stated of him that "he had seen many dead men, but never one who looked as badly as he. He looked as though there was not a drop of blood in his body, and the color of his face was like that of one's hands when held before a green dress." He also noticed "a peculiar smell about him," and that he seemed very weak.

Soon after he arrived at his house, he

was seen by Dr. McDonald, of this city, to whose kindness I am indebted for an account of his condition at that time. He found him "in a semi-comatose condition, roused with difficulty, answering questions incoherently, very livid all over, extremities cold, pulse slow and full, breathing difficult but not stertorous, and whole body bathed in perspiration." The clothing about him and vomited matter emitted a strong smell of bitter almonds. On being "shaken up," his pulse improved, and breathing became somewhat less laborious. He was ordered an emetic, to be followed by brandy and ammonia (though whether he received anything from his stupid and indifferent friends is doubtful), and directed to be taken to the City Hospital, where he was brought about 5 o'clock, P.M. The only history to be obtained from those bringing him was, that "he had breathed fumes from a broken package early in the morning," as above.

When first seen, he was lying in the accident room of the hospital, with marked pallor of the face, and at the same time a noticeable and peculiar blueness of the proboscis and of the fingers and fingernails. His breath and clothing emitted a peculiar odor, which seemed familiar, and it occurred to me that it was the same with that constantly pervading the clothes of a friend who was engaged in an aniline manufactory. A short hunt through the books enabled me to fix upon nitro-benzole as the probable poisonous agent, and this it afterwards proved to be.

He had received half an ounce of brandy from the ward-master on his entrance.

On loud questioning patient roused somewhat, appeared perfectly rational, and stated that he "had swallowed nothing, only breathed the fumes." Pulse was 100, feeble, and respiration slow and very feeble. Pupils dilated, and not responding to light. Artificial respiration was attempted, without much result, and patient was ordered carb. ammonia and placed in a hot bath, at the same time receiving a cold douche upon the head. When taken out, he was

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vigorously rubbed with coarse towels from head to foot. At this time he vomited twice a portion of the brandy taken on entrance. Pulse now 120, of good strength. Respiration 28, quite strong, and countenance more natural. After a while his symptoms grew worse. Bath was repeated, and afterwards the patient was wrapped in blankets and stimulated freely with brandy and carb. ammonia by enemata, the stomach rejecting stimulants taken by the mouth.

At 7.30, P.M., pulse 112, and again very feeble. Resp. 18, and very irregular, a long, slow breath being followed by several shorter and quicker, and the patient could barely be roused by repeated hard slaps with wetted towel on chest and face, muttering to be "let alone," and again relapsing into an unconscious state.

8.20, P.M.—Pulse and respiration the same, but patient more easily roused.

10.30, P.M.—Pulse 104, resp. 22, still irregular, but patient easily roused, perfectly rational, and able to relate the circumstance of his attack. Right pupil responding to light, but left still immovably dilated.

Next morning.—Pulse 78, resp. 22. Pupils normal. Patient still pale and bluish, but states that he is "all right." Soon after, he left the hospital, returning a few days afterwards to report himself. "Still a little dizzy and not quite himself," but expecting to go to work in a day or two. Bluish color about the mouth still noticeable. Since that time nothing has been heard from him, and doubtless his recovery was perfect.

The ward which he occupied was strongly scented for several days after he left with the peculiar odor of nitro-benzole.

The man who worked by his side in the hold showed no symptoms of poisoning, although he worked in the same place and for the same length of time, and also had some of the liquid spilt upon his clothing.

Three other men worked for about two hours in the hold, at the time; upon two no effect was produced, except that of a local irritant where the liquid fell upon the skin; the third man felt dizzy, and it was noticed that he was "pale and blue."

In an essay "On the Physiological Properties of Nitro-benzole and Aniline" (*London Hospital Reports*, Vol. 2), Mr. Letheby writes as follows:—

"It is on record that Thrasyas, the father botany, was so skilled in the preparation drugs that he knew how to compound a poison which would remain for days in the living body without manifesting its action, and would at last kill by a lingering illness.

***** Modern toxicologists have long since discarded these notions, and have set them down to the vague fears and exaggerated fancies of the ancients rather than to the sober contemplation of fact; but the account which I am about to give of the physiological properties of nitro-benzole will show that there is one substance at least, which realizes, to a great degree, the extraordinary opinions of the ancients. The compound may be given to-day, and yet, if the dose be not too large, it shall not manifest its action until to-morrow or the day after, and then shall destroy life by a lingering illness, which shall not only defy the skill of the physician, but shall also baffle the researches of the medical jurist. These facts are so remarkable that they would be hardly credited if they were not susceptible of the proof of demonstration. They are likewise the more interesting and important from the circumstance that nitro-benzole is now a common article of commerce and is accessible to everyone."

According to our author, the narcotic effect of nitro-benzole and aniline are frequently noticed among workmen in establishments where they are manufactured; but usually the symptoms are not serious, and are readily dispelled by fresh air or a mild stimulant. He records, however, several fatal cases by nitro-benzole, viz. :—

A man, *æt.* 43, spilled a quantity of the liquid over the front of his clothes, and went about for several hours in an atmosphere saturated with the poison. In another case, a boy, *æt.* 17, received a little of the liquid into his mouth while sucking at a syphon.

The effects were nearly the same in both cases, notwithstanding that in one the poison was inhaled and in the other it was swallowed. For some time there was no feeling of discomfort beyond that of drowsiness; gradually, however, the face became flushed, the expression stupid, and the gait unsteady. The sufferers had the appearance of persons who had been drinking. Little by little the stupor increased until it passed into profound coma, and in this condition they died. The progress of each case was much the same as that of slow intoxication, excepting that the mind was perfectly clear until the coming on of the fatal coma, which was sudden, and in which "the sufferer lay as in a deep sleep, and died without a struggle." The duration of each case was nearly the same; about four hours elapsed from the time of taking or inhaling the poison to the setting in of the coma, and the coma itself lasted four

or five hours. At the *post mortem* there was found congestion of the brain, and the blood was "everywhere black and fluid. The liver was of a purple color. Analysis discovered the existence of nitro-benzole in the brain and stomach, and also of aniline."

In a third case, a clerk in a chemical manufactory, at about noon, applied a drop or two of nitro-benzole to his tongue to take away the odor of a pipe which he had been smoking, repeating the same an hour and a half afterwards, the latter time also swallowing a drop or two of the liquid. He felt prostrated after the first dose, and took an alcoholic stimulant, but an hour after the second dose was worse, and was seen by a physician, who found him excited, his face purplish and his lips and nails mauve colored. Skin cold. Resp. short and quick, with feeling of suffocation. Heart's action irregular. Pulse 130, weak and irregular. Complaining of oppression at chest and confusion in head. At half past three, he was seized with convulsions (emprostotonos), repeated in twenty minutes, both convulsions quickly passing off, cold water being dashed over him. Soon after, a third convulsion occurred, leaving patient in a state of coma, in which he remained for six hours, consciousness then gradually returning after an enema of turpentine. Pulse remained weak, irregular and frequent. Patient complained of great thirst, and drank much strong coffee. He remained sensible to the last, finally dying by exhaustion, fifteen hours after the last dose of the poison.

On *post mortem*, there was found congestion of the brain and also of the spinal cord. The lips were still livid, but the mauve color of the nails had diminished since death. All cavities of the heart, coronary vein, *venæ cavæ* and pulmonary artery were fully distended with black, coagulated blood, and the lungs were much congested; abdominal organs normal.

In this case, the patient was certain that he had not swallowed more than three or four drops of the poison, and from the fact that the tube in which he had the liquid was found nearly full, he could not have taken more than eight or nine drops.

A servant boy, æt. 13, tasted some "artificial essence of bitter almonds" (nitro-benzole), which had been used to scent pomatum, but finding the taste unpleasant spat out, and "did his best to prevent any from being swallowed." The cook in the family also tasted, but did not swallow any. Soon after, both ate dinner.

In about an hour from the time of tasting

the poison, the cook felt unwell, suffered from palpitation of the heart (being a subject of heart disease), vomited—the vomited matter smelling strongly of nitro-benzole—became insensible, and fell from her chair. She remained quite insensible several hours. Her face was puffed and of a leaden hue, and lips swollen and livid. Skin moderately warm. Pulse regular, but feeble. Patient recovered under alcoholic stimulant, "but there was a remarkable discoloration of the skin of the face and chest for many hours after."

The boy was not affected for six hours after, in the meantime having taken his mistress out to drive. He then vomited—vomited matter smelling of nitro-benzole—became drowsy, stupid, and at 8 o'clock was quite insensible. Face livid, lips almost black, teeth firmly clenched, pulse intermittent and feeble. Brandy was given freely, and patient seemed to rally for a while, but soon after relapsed, and died in complete coma, ten hours and a half after taking the poison. No examination *post mortem* was made.

These cases led Mr. Letheby to experiment upon animals, a brief *résumé* of which experiments is here given:—

"From 30 to 60 drops were given by the mouth to dogs and cats. There was rarely vomiting or other sign of gastric irritation. Two classes of effects were noticed—either rapid coma, or a slow occurrence of palsy and coma after a period of apparent inaction of the poison. Even in the *rapidly comatose* cases paralytic symptoms were noticed in the earlier stage. The time varied in *these* cases from twenty-five minutes to twelve hours between the exhibition of the poison and death.

"In the *slower* cases, there was no visible effect for hours and sometimes for days. Suddenly, however, the animal would be attacked with vomiting, followed by convulsions, which on their subsidence left more or less paralysis, first of the hinder and then of the fore limbs. After this, the animal generally lay for days more or less conscious, with now and then epileptic attacks, and at length died of exhaustion, or gradually recovered.

"The time from the exhibition of the poison to the first epileptic fit was from nineteen to seventy-two hours, in most cases about two days, and to the period of death was from four to nine days. This apparent inaction of the poison at first is very extraordinary, almost justifying a belief in cases of poisoning said to have occurred in ancient times."

Marked dilatation of the pupil was noticed in some of these cases. The *post-mortem* appearances were much the same as in the fatal cases in man reported by the same observer, and there was the same purple tint of the liver as found in the first two cases he reports. In the rapidly fatal cases, the odor of nitro-benzole was noticeable, and aniline was found in the organs. In some of the *slower* cases, the odor was gone, but in nearly all aniline was found in some parts of the body, though in a few instances no poison whatever was found. Mr. Letheby also made experiments upon animals with aniline, the effects of which were apparently identical with the *rapid effects* of nitro-benzole. Aniline was readily discernible in the tissues *post mortem*.

As a result of his experiments he draws the following conclusions:—

1st. That nitro-benzole, and aniline in its free state, are powerful narcotic poisons.

2d. That they excite but little action as local irritants on the stomach and bowels.

3d. That although the effects may be quick and the fatal termination of them rapid, yet nitro-benzole may remain in the system for a long time without manifesting its action.

4th. That the salts of aniline are not nearly as poisonous as the free alkali.

5th. That in rapid cases of fatal poisoning, both the poisons are readily discovered in the dead body.

6th. That in slow cases the poison may be entirely changed or eliminated, and therefore not recognizable.

7th. That both of the poisons appear to be changed in the body by the process of oxidation and reduction, nitro-benzole being changed into aniline, and aniline and its salts into mauve or magenta.

Dr. Alfred S. Taylor, under the heading "Cases and Observations in Medical Jurisprudence" (*Guy's Hosp. Reports*, 1864), refers to the experiments of Mr. Letheby upon animals, and also speaks of the odor of nitro-benzole being in one case plainly perceptible from the body of the animal fourteen days after death. He also refers to a paper by Mr. Nicholson, published in *The Lancet*, Oct. 1, 1862, in which the writer states that he has known several instances in which the vapor of nitro-benzole, as evolved from "*almond glycerine soap*" scented with it, has seriously affected females. A friend of his who used a cake of the soap in taking a warm bath, fainted from the effects of the vapor of nitro-benzole set free, and was ill for some time afterwards.

Mr. Taylor records the case of a woman who tasted nitro-benzole by mistake, but at once spat it from her mouth, though she continued to breathe the vapor of some spilled upon the floor. When seen, was pale and ghastly, "lips and nails purple, as if stained by blackberries," but the patient's mind was clear, and she described the nature of the accident, but afterwards lost her consciousness. Her teeth became set, the hands clenched and blue, the muscles rigid and convulsed. In about eleven hours there was reaction, and in seventeen the patient was much better, though she continued feeble for some weeks.

A person in the same room with the above suffered from inhaling the vapor from the liquid spilled on the floor.

Nitro-benzole, according to Mr. Taylor, is distinguished from all other liquids, except the essential oil of almonds, by its odor, and from the oil by the fact that strong sulphuric acid added to it produces no color, while with essential oil of almonds a rich crimson color, with a yellow border, is produced. He also states that, so far as cases have been observed in man in poisoning, either by the liquid or vapor, narcotic symptoms have appeared comparatively soon. Both Mr. Taylor and Mr. Letheby describe processes for detection of the poison *post mortem*.

The effects of aniline as such upon the system have frequently been noticed.

Mr. Letheby records a case of a boy who was brought to the London Hospital in 1861, having breathed fumes of aniline, and who was suddenly seized by dizziness and insensibility; he was brought to the hospital in that condition, with cold surface, feeble pulse and laborious breathing. After a while he rallied, and "it was then noticed that his face had a purple hue, and that the lips and lining membrane of the mouth, and the nails, had the same purple tint." The color remained next day, "patient looking like a patient in last stage of cholera," otherwise his symptoms had disappeared.

Another case is referred to in the *Pharmaceutical Journal*, vol. 4, p. 42, where a man spilled some aniline upon his clothes and breathed the vapor for several hours. When seen, several hours afterwards, "his body was of a leaden, livid hue; lips, gums, tongue and eyes, of corpse-like, bluish pallor, and breath gasping." He recovered with vigorous stimulation, though the peculiar color was noticeable for some time.

The same peculiar coloring of the features has been noticed at the London Hospital, in patients taking sulphate of aniline, given

in cases of cholera, the color fading some time after a dose, and reappearing with the next.

Dr. Turnbull, of Liverpool, in a paper on Properties of Sulphate of Aniline, has also noted the remarkable effect it has on the color of the lips and skin. After reading the reported cases of poisoning by nitrobenzole, it seems strange that certain authorities should have asserted that it is not poisonous; and in view of what is now known of its properties, such assertions must go for naught. Certain it is, however, that the action varies considerably with the patient or is modified by unseen influences. In the case of the man mentioned in this article, the companion of the patient, although as near as could be learned under exactly the same conditions, had no symptoms whatever.

By an accident occurring in this city a few years ago, of which I was cognizant, two gentlemen were drenched with a mixture of aniline and nitro-benzole, and breathed the vapors for a considerable time afterwards, yet upon neither was any effect produced, except that one had a severe attack of conjunctivitis, the liquid having fallen in his eyes.

The subject has attracted considerable attention abroad, but, as far as I know, as yet, very little in this country, and no reported cases occurring this side of the water have fallen under my observation, though very likely there have been such. It certainly is interesting as exemplifying in a most striking manner the chemical changes constantly going on in the living organism, and is, moreover, important to the medical practitioner, from the fact that the statement made in England several years ago, "that nitro-benzole is now a common article of commerce, and accessible to everyone," is true in America to-day.

NOTE.—Nitro-benzole (commonly known as essence or oil of Mirbane) is now largely employed by soap manufacturers, perfumers and confectioners, and is used to some extent in household kitchens as a substitute for oil of bitter almonds. It has been introduced into medicine, and is stated to be, when diluted with glycerine and applied locally, an efficient remedy for scabies.

It is formed by the action of nitric acid upon benzole (a product of the distillation of coal tar), and is an oily, yellowish, intensely sweet liquid, with an odor resembling—but not identical with—that of bitter almonds. Density, 1.209; boiling point, 415°; represented (old nomenclature) by the formula $C_{12}H_9O_2N$. It is largely

used in the manufacture of aniline colors, being transformed by simple chemical processes, by the removal of oxygen and the addition of hydrogen, into aniline, $C_{12}H_9N$.

Aniline, treated in different ways with various oxidizing reagents, yields the dyes known as aniline colors. Their chemical composition has been investigated by Hoffman. They are understood to result from the oxidation of a portion of the hydrogen of the aniline, the color of the new compounds varying with the character and relative proportion of the oxidizing agent employed.

PROPOSED IMPROVEMENTS IN PRINTING AND WRITING.

By ABEL FLETCHER, Massillon, Ohio.

THE frequency with which we meet persons afflicted with weak eyes and failing sight, naturally prompts the inquiry—What are the causes which produce such serious consequences? That these are numerous, no one, we presume, will deny. But we shall attempt no philosophical or physiological disquisition upon a subject concerning which we know so little. Our present purpose is to call attention to the injurious effects upon sight, resulting from the prevailing methods of printing and writing, with the view to suggest certain changes in those arts, which, if adopted, seem likely to lessen in a large degree the evils alluded to.

The education of the masses by means of our various institutions of learning is rapidly increasing the number of readers and writers. Literary and scientific men and women are becoming more numerous. Habits of thought and study are becoming more fixed and regular. As a consequence, the press runs night and day to supply the demand for books, newspapers and other periodicals, which are being multiplied at a rate hitherto unprecedented. Surely, these are hopeful signs for our young Republic. But, unfortunately, with the increase of knowledge, there comes also an increase in the number of weak and failing eyes. The trade in spectacles seems to be largely augmented: instead of being confined to the aged and infirm, multitudes, in the health and vigor of middle life, are compelled to resort to their use, and many at a much earlier period. May we not fairly attribute a very large percentage of weak and failing eyes to the daily habit of poring for hours over voluminous pages of fine print, on glaring white paper, by the dim light of a candle, or, still worse, by the dazzling

flame of a lamp or gas, and not unfrequently without a shade to shut off the direct rays from the eyes? How many students in our various institutions of learning are, from this cause, annually compelled to abandon their studies, and retire from their classes, before completing their courses; thus physically disqualified for the very professions for which they had labored so long and arduously to prepare themselves, intellectually. How many book-keepers, lawyers, clergymen, literary men and others, are compelled, after gazing for a few years at the snow-white pages of their ledgers or manuscripts, to leave their professions, or resort to the use of spectacles, long before old age or other causes would have rendered them necessary.

Of course we have no statistics by which to render a definite or even approximate answer to these questions; but observation compels us to believe that the number thus afflicted is more numerous than is generally supposed. What, then, shall be done? Must we abandon all literary and intellectual pursuits which require the aid of books? Must all legal, mercantile and other business transactions be entrusted entirely to the memory? Must the press be abolished as an unsafe instrument for the transmission of knowledge? In short, must all give up reading and writing, or incur the risk of weak and painful eyes, impaired vision and, perhaps, total blindness? Certainly not. Human ingenuity, when once directed to the subject, is doubtless adequate to the discovery of a remedy. We lay no claim to superior knowledge on this subject, but during the last twelve years, the writer has passed through various stages of blindness, up to nearly total darkness. He has, therefore, had much leisure and opportunity for observation on this point, and has made some experiments, the results of which are strongly suggestive of improved methods of printing and writing, which, if found practicable, promise to lessen, to a large extent, the evils under consideration. Of course that little word *if* stands in our way. So it does in the path of all improvement and discovery. He who succeeds in removing opposing obstacles, and in rendering that practical which before was only problematical, is a benefactor of his race. To enable the reader to understand by what means we propose to diminish the evils referred to, and to form a clear idea of the reasons which induce us to believe in their practicability and efficacy, it will be necessary to call attention to certain facts and principles observable in nature, and to give

the results of such experiments as we have been able to make.

Every one knows that when a strong light, like that of the sun, is allowed to fall on the retina or optic nerve, the effect is to dazzle or blind the eye; and if continued too long, or repeated too often, it is liable to result in permanent injury to the sight, if not total blindness. Hence, those accustomed to work by the intense light of a furnace or a forge are apt to suffer with impaired vision, in consequence of gazing at the metal while in a state of incandescence or white heat. Of course the injury, in all such cases, is in proportion to the intensity of the light, and the length and frequency of exposure.

The eye, like all other organs of the body, is impaired by excess. Nature has spared no possible means for protecting the eye against the injurious effects of too much light. She has placed the sun above our heads, and caused the eyebrows to project, so that the perpendicular or oblique rays can rarely fall on the pupil. In the morning and evening, when the sun is low, and its rays nearly horizontal, she draws a curtain of clouds and vapor along the horizon, which has the effect of smoked glass, to shut off the excess of light and to soften those beams which reach the eye, so as to render them comparatively harmless. Intervening objects, such as hills and forests, sometimes aid in this result. The eyelids are also made to open and shut to any degree required, and the pupil to expand and contract so as to assist in regulating the amount of light necessary to healthful vision. The direct rays being generally too powerful, nature has provided as far as possible that none but reflected light shall enter the eye. She has, also, by a variety of tints and colors, so softened or mellowed these reflections as to render them both healthful and beautiful. She has painted both the sea and the sky blue; the earth green and brown, though often interspersed with other hues of varying shades.

By far the greater portion of light which enters the eye, appears to be reflected from the ground and the various objects which rest upon it. Hence, the natural inference is that surfaces more or less dark form the best grounds upon which to view the various objects of sight. The painter, skilled in his profession, understands and avails himself of this principle in the production of works of art. In portraiture, and in all cases whenever the nature of the subject will admit, the true artist employs a dark back-ground upon which to display his picture. The reason is obvious to every re-

flecting mind. To see any object distinctly and pleasantly, little or no light should enter the pupil, except what is reflected directly from the object itself. Light, coming from other bodies in the rear or vicinity, has a tendency to fog and confuse the images of those we are examining; but if we contract the angle of vision so as to cut off reflections from either side, and interpose a back-ground between the objects under examination and those in the rear, to cut off and absorb, as much as possible, all foreign rays, then the objects of special inspection will appear more distinct and beautiful, and we shall be enabled to examine their various parts with less fatigue and far more pleasure. To narrow the angle of vision and cut off side reflections, a tin or paper tube, blackened on the inside to absorb the diffused light, is frequently employed, through which to view works of art, for the purpose of heightening their effects and increasing their beauty.

Diffused or scattered rays, coming from different directions, have a far more pernicious effect in dimming and confusing the sight than people generally are aware. To illustrate: place a plaster bust or other white object on a table in front of a white wall, and with light falling upon it from opposite directions, the effect will be to render the bust exceedingly dim and indistinct. Why? First, because the white wall behind it reflects as much light to the eye as the bust itself, thereby destroying the contrast necessary to show the outline. Secondly, the light falling on it from various directions destroys the proper contrast of light and shade essential to give boldness and relief. Thirdly, the light coming from various parts of the room to the eye, still further fogs and confuses the image of the bust on the retina. If, now, we introduce a dark back-ground behind the bust, to cut off reflections from the white wall, and shut off the light from every direction but one, so as to throw one-half of the bust in shadow, its beauty and brilliancy will be surprisingly increased. If we pursue the experiment still further, by viewing the bust through a tube like the one previously described, to cut off all side reflections coming from other objects to the eye, the effect will be still farther enhanced. If, now, we introduce any dark object, in place of the white bust, and view it under the same conditions, the effects will be substantially the same, only in a less marked degree. A familiar instance of the effect of diffused light in rendering objects indistinct and even invisible, may be witnessed

any morning when the sky is clear. As the day dawns, the stars begin to fade, and gradually disappear, as the sunlight comes reflected from a thousand objects to the eye. When the curtain of night is again drawn, shutting out all light, excepting what is reflected or radiated directly from the stars themselves, they reappear in all their former glory and beauty. The image projected from a magic lantern on a white screen, in a dark room, will appear bright and distinct so long as the room is kept in darkness; but the moment the gas is lighted or daylight admitted, the picture fades or entirely vanishes. From these examples, so familiar to all, it will be seen that just in proportion as we exclude light from the eye, excepting what is radiated or reflected from the object to be viewed, will that object be rendered visible and distinct.

So injurious are scattered or foreign rays to clear and distinct vision, that the optician, in the construction of telescopes, microscopes and other optical instruments, finds it of the utmost importance to exclude all such rays by every device within his knowledge. Hence, he employs diaphragms with narrow openings to cut them off, and blackens the inner surface of the tubes to absorb such as cannot be shut out. The intelligent photographer knows that unless the inner surface of his camera box and tube is blackened, he cannot produce a good picture. Why? Because such foreign rays as cannot be excluded must be absorbed, or they will be reflected on his plate, and thereby fog and flatten the image, and thus render his picture worthless. He knows, also, that a white back-ground will, in most cases, produce a similar result. Hence, he employs a dark one, to absorb the excess of light which might otherwise enter the camera and destroy his picture. It is essential that no light should fall on the plate, except what is reflected directly from the sitter and such other objects as are designed to be seen in the view.

Perhaps the reader has observed, while passing along the street after dark, that signs with gilt or light-colored letters on a dark ground were more easily read than those with black letters on a white ground. The reason will be obvious on reflection. In the first instance, the light is reflected from the letters themselves, upon the retina, just as the light is reflected from the sitter, upon the plate in the photographer's camera. At the same time, the dark ground of the sign absorbs such foreign reflections as would be likely to enter the eye and blur the images of the letters formed on the re-

tina, just as the photographer's dark ground absorbs similar reflections, which otherwise might enter his camera and disturb his pictures. The eye is a perfect camera, of which the artificial one is but an imperfect copy. With black letters on a white ground, the case is reversed. Purely black letters reflect no light whatever, while the white ground impresses itself forcibly upon the retina, leaving the form or shape of the letters as so many blank spaces. A white ground, unlike a dark one, does not absorb foreign reflections, but rather increases their number. These, falling on the blank spaces which form the letters on the retina, partially obscure or whiten them, thereby lessening the contrast with the white ground of the sign, and thus rendering the letters more difficult to be seen in the distance or in a dim light.

In the earlier stages of the writer's blindness, while a little sight still remained, he found that gilt titles on the back of almost any book could be read with comparative ease, while the same title printed in black letters of a much larger size on the white title page, could not be distinguished. It was also observed that a white or light-colored thread resting on a black surface could be seen with tolerable distinctness, while a much coarser black thread resting on a white surface was invisible. The reader can satisfy himself of the correctness of these statements by repeating the experiments at dusk, or in a very dim light. In the fall and winter of 1853 and '54, the writer spent several months at the Ohio Institute for the Blind. Of one hundred and twenty pupils, only about one-third were in total darkness; the remainder possessed more or less sight. Every one of the latter with whom the writer conversed on the subject confirmed his own experience as related above.

As already intimated, nature, with rare exceptions, selects a comparatively dark ground upon which to exhibit her pictures and other objects of sight. Indeed, it may be said, with no great deviation from truth, that the great book of Nature is printed in letters of light and pictures of gold on leaves of darker hue. The stars and other heavenly bodies are lighter than the blue sky in which they appear suspended. Were this order reversed, were the sky lighter than the moon and stars, then, indeed, would night's splendor cease, and the glittering orbs above, which now delight the eye and enrapture the soul, would, if visible, present no more attraction than specks of dust on a whitened ceiling. A white sail in the distance is far more perceptible than

the black hull resting on the blue waters. The golden harvest-field, bounded by green pastures and dark forests and brown acres, is more conspicuous than any of its darker surroundings. A bed of pinks or a cluster of roses growing out of a snowbank, or on a hill of chalk, would appear exceedingly tame and spiritless; but, with the brown earth or the greensward for a back-ground, they smile upon us with marvellous beauty and brilliancy. It is useless, however, to multiply examples. Enough has been said to establish the almost universal law that comparatively dark grounds form the most natural and proper surfaces upon which the various objects of sight should be viewed.

But it may be objected that the earth is sometimes covered for weeks and months with a mantle of snow which forms the background of such objects as remain uncovered. This, however, is the exception and not the rule. It should also be borne in mind that a mantle and a back-ground are two very opposite things. The one is a covering, designed to hide objects from view; the other is an open field in which to exhibit them to the best advantage. The snow has been appropriately termed a mantle, because by it most objects in nature are hid from sight. Even the few which the wind or the sun may have uncovered, such as trees and buildings, are far from being improved in appearance by being seen with the snow for a back-ground. On the contrary, they are rendered less distinct, and lose many of those beautiful tints and bold shadows which the painter loves to represent on his canvass.

The unpleasant and injurious effect of a strong light on the eyes is often experienced by travellers and others much exposed to the reflections of the sun's rays from large bodies of snow. But nature, as far as practicable, has guarded against all such injurious consequences; first, by causing the sun's rays in the winter to fall more obliquely, thus lowering their intensity and lessening their power; secondly, by a preponderance of cloudy weather, causing the excess of light to be shut off or absorbed during the greater portion of the season; thirdly, by shortening the days, and confining the multitude within doors, to avoid the cutting winds and piercing cold. In equatorial and tropical latitudes, the sun's rays are more nearly perpendicular, and consequently more intense. Fortunately, in these regions snow never falls except on the tops of the tallest peaks, where man rarely ventures. Were it otherwise—were the intense, perpendicular rays to fall upon a white surface,

such as snow, the effects upon sight might prove most disastrous.

Thus much we have thought proper to say, to prepare the reader for a correct understanding of the means by which we propose to obviate, to a large extent, the evils growing out of the prevailing methods of printing and writing. If the great volume of Nature is written, not in characters of darkness, but in letters of light, upon the brown earth and the blue sky, may we not take a hint from the example. If it be true that Nature presents her pictures, not on a white, but on a comparatively dark ground, is it probable that we can improve upon her practice? If it be a fact that objects can be seen with greater distinctness, and with less strain and fatigue to the eye, on surfaces comparatively dark, does it not follow as a natural sequence that the practice of printing and writing with black ink on white paper is radically wrong, and ought to be reversed? If the practice and teachings of Nature (which are always the wisest and best) are to be taken for a guide, would it not be well to make a vigorous effort to discover some practicable method of printing and writing with light ink on dark paper? If the public could be furnished with books and writing materials of this description, does it not seem probable that much of the strain and fatigue now attendant on reading and writing would be obviated—that many valuable eyes would be saved from partial and perhaps total ruin—and that multitudes, now debarred the privilege, would be enabled to resume an occupation so pleasant, so profitable and so ennobling? As a consequence, might not publishers themselves expect a largely increased patronage and a wider circulation for their various issues?

We are well aware that at the outset of this reform, mechanical and other difficulties will doubtless arise, which it will be necessary to overcome. Perhaps the first to be met will be the difficulty of manufacturing a light ink, sufficiently intense not to be dimmed by the dark ground of the paper showing through, and thus destroying the requisite amount of contrast. Should this occur, it might possibly be obviated by the use of type with the letters sunk instead of raised, and printing the dark ground on light-colored paper, leaving the letters the color of the sheets. But this is a matter for the ink-maker and the practical printer. If raised type is adhered to, we can hardly suppose that any serious difficulty can arise in manufacturing paper of any shade required, and at a reasonable cost. But what

special shade of paper, and what particular hue of ink must be employed can only be determined by patient experiment and a careful study of the effect of light and shade as seen in nature. But whatever shade of ink or paper is used, it seems necessary that there should be a strong contrast between the two, in order to give the best results. It is probable that some shade of blue, green or brown, will be found most suitable for the paper, as these colors are the most abundant in nature. For common use, perhaps brown will be found the most economical and convenient, while green and blue may take the preference for fancy and ornamental printing. Black rarely occurs in nature as a ground upon which objects are to be viewed, probably on account of its tendency to absorb too much light, and thus render the shadows too heavy. But with flat objects which cast no shadows, such as letters, this would not be so objectionable. Theoretically, gold or yellow inks promise the best success, as may be inferred from the instances already cited of gilt letters on signs and backs of books being read in a light so feeble as to render all others invisible or illegible. The yellow is the most brilliant ray in the solar spectrum and the brightest color in the rainbow, as the golden sun is the most luminous of all the heavenly bodies. The yellow may be seen when all other colors fade into obscurity, and when even the purest white is lost in darkness.

Since the commencement of this article, some months ago, the writer has submitted to an operation by Prof. A. Metz, of Massillon, Ohio, which has resulted in a partial restoration of sight, with signs of still further improvement. In order to test the progress of vision, as indicated by the ability to distinguish colors, the writer procured a piece of black cardboard about ten inches square. Upon this were pasted squares of paper of different colors, care being taken to select those with the brightest hues. These squares were about one and a half inches in size, and placed in rows about the same distance apart. At the first trial, after admitting light to the eye upon which the operation was performed, the gilt square only could be perceived, and this but faintly. The yellow soon became perceptible, while the white square situated directly between the two remained invisible. As the vision continued to improve, the blue was the next in order to be perceived. This was speedily followed by the white, red and green, which were nearly simultaneous in making their appearance. The polished surface of the gilt square may

perhaps account for its being seen before the unpolished yellow. If this experiment has any bearing upon the subject, it indicates almost beyond a doubt that gold or yellow ink will be found the most appropriate for printing on dark surfaces. But, as already stated, experiment in a practical way only can determine the question definitely. Judging from occasional samples of fancy and ornamental painting and printing with gilt letters on a dark ground, nothing in the typographic art could be more beautiful than a printed page with gold or bronzed letters upon blue or brown paper. If, in addition to the looks, it should be found that print of this kind could be read with more ease and less fatigue to the eye, and thus enable many to read with comparative ease and safety, who are now unable to do so, then all must admit that this mode of printing, if found practicable, should at once be adopted.

Before closing, we wish to suggest an improvement in the construction of type, which, it seems probable, would materially aid in the ease and comfort of reading. If the reader will examine a page of ordinary print by a very dim light, he will observe that the thin parts or hair lines disappear, leaving only the thick portions visible, thus giving the letters a broken or mutilated appearance, as if printed from old and worn-out type, in which the hair lines are worn below the surface, leaving only the thick portions to take the ink and make the impression. Every one knows the difficulty of reading print of this description. Yet, to persons of feeble vision, the best of ordinary print presents the same appearance, and even those with good eyes weary much sooner from the same cause. The obvious remedy is the abolition of hair lines and of very fine print, and the use of type in which the letters are of nearly equal thickness in every part. This, of course, would offend the taste of those who regard the looks of their pages more than the knowledge they convey. He who "hungers and thirsts" after wisdom will not be scrupulous about the mere looks of the medium through which it is obtained. He will value knowledge itself, and the ease and comfort of acquiring it, more than the elegance of the channel through which it comes. But to the tearful, aching eye, there is little beauty in the most elegant type when it appears broken, mutilated and almost illegible. Letters of nearly equal thickness in every part, and consequently destitute of hair lines, may sometimes be seen in fancy and ornamental painting and printing, where they

are introduced for the sake of variety. If the reader will observe, letters of this description can be seen at a greater distance, and in a light which would render ordinary letters of the same size nearly, or quite, illegible.

In conclusion, may we not hope that some enterprising printer, possessing the requisite means, will, as an experiment, endeavor to furnish the reading community with at least one small book or pamphlet, printed on the plan here proposed, with such additional improvements as his own skill and experience may suggest? By so doing, we feel assured that a generous public, ever ready to encourage whatever is new that promises to be useful, will abundantly reward him for his services.

Selected Papers.

A CASE OF SLOUGHING OF THE UTERUS.

By W. G. DRAKE, M.D., Atlanta, Ga.

On the 3d of August, 1860, while practising in Alabama, I was called to visit a negro woman in her first confinement; being absent at the time, Dr. B. visited the case, in the afternoon of that day, and its history, up to the time of my arrival on the 4th, as gathered from him, is about as follows:

He learned from the nurse that the woman had been complaining since the 2d. Making the necessary examination, he found the os uteri dilated and without any rigidity, but as all effort upon the part of the womb, at expulsion, had ceased, he commenced the administration of *vinu ergote*, in drachm doses, at short intervals. Waiting sufficiently long for the specific effects of the drug to be produced, and none being developed, he concluded, as there were no alarming symptoms present, to retire for the night, with instructions to the nurse, that he be called if anything should occur requiring his attention. He was not disturbed, and found, on visiting the woman, in the morning, that she had passed, comparatively, a comfortable night, with only slight contractions, at long intervals; at this time, however, being more frequent and of greater force, *ergot* was again administered, and acted well until the head had thoroughly descended and become impacted between the pelvic bones, when nature ceased her efforts, and the *ergot* lost its effects.

Waiting several hours, and everything

remaining "in statu quo," I was again sent for, with the request that I bring obstetrical instruments. Soon after arriving, I instituted an examination and found firm impaction of the foetal head, with the corrugations of the scalp protruding beyond the labia. I proposed the immediate application of the forceps—but the doctor suggested the propriety of waiting, as he had, a short while previous to my arrival, again resorted to the use of ergot.

An hour or two having elapsed and the uterus still remaining inert, an effort was made to apply the instruments, but we found it impossible to lock them until craniotomy was performed, after which, with the aid of the forceps, and without difficulty, quite a large and perfectly developed male foetus was delivered.

On the passage of the head, there gushed forth an unusually large quantity of decomposed liquor amnii, of creamy consistency, the color of lemon, and an odor very offensive, so much so, indeed, that I found it impossible to remain in the room without vomiting.

There was no difficulty attending the removal of the placenta, nor was the post-partum hæmorrhage more considerable than usual with primiparæ, though the uterus failed to contract kindly until ergot was given, and ice-water applied externally and over the uterine region.

The nervous system was very much depressed, and reaction, though gradual, seemed to be perfect under the use of alcoholic stimuli. I remained with the patient that night, and left her next morning doing as well as could be expected after a protracted labor and an instrumental delivery.

I visited the case five or six days consecutively, and no untoward symptoms occurring, she was discharged. There had not been, up to that time, any indication of metritis or metro-peritonitis, mammary abscess, nor any of the other "ills" to which lying-in-women "are heir to"—the patient remaining cheerful, the appetite good, the bowels moving regularly, without calling into requisition the aid of the usual remedies on such occasions. In fact, I never attended a case that gave promise of a more favorable termination.

Thirteen days subsequent to my last visit, I was again sent for, and on my arrival was informed by the nurse that the woman's bladder "was out." On making an examination, I found, instead of that viscus being prolapsed, I had a case of procidentia uteri, with the lips and vaginal cervix, &c., in a state of sphacelus. I introduced a catheter

to the fundus, through which passed, probably, a half-pint of limpid fluid, and not very offensive. Then grasping the protruding part between the thumb and index finger, I made gentle pressure, by degrees approaching the body of the organ until I reached a point of sensibility, and just below that point and above the surgical neck I excised the insensible portion.

Various astringents and antiseptic remedies were applied locally, hoping thereby to arrest further decomposition and complete destruction of the organ, and as the functions of assimilation and digestion were somewhat impaired, the vegetable and ferruginous tonics were administered with apparent benefit. I noticed, however, on each visit, that the womb had gradually descended, and on one occasion, I caught hold of it and made gentle traction, and no pain being complained of, I continued to pull, when, to my utter astonishment, there came away the entire mass with its Fallopian appendages. From that time, the woman improved rapidly in general health, and it was but a short time until she was competent to perform all her duties as house-servant.

About eighteen months after the coming away of the womb, she informed me that she came unwell regularly, or in other words, there was a periodical discharge of blood from the vagina, corresponding with the catamenial flow, which occurred regularly prior to the time of her conception, and, at times, the sexual orgasm was as intense, and the sensations peculiar to the act of coition were as *exquisitely acute* as before her confinement.

The case, I must confess, is to me an unique one (never having seen a similar one recorded, and in conversation in regard to it with medical men, have had them express their doubts as to its being truly the uterus, but, instead, a false membrane), and I do not pretend to account for the above facts, except upon the supposition that both, or at least one of the ovaries remained intact. Having an opportunity in 1862, I made a digital examination and found that quite a change had taken place in the physical condition of the vagina; its walls, as well as the sphincter vaginæ, were very much contracted, affording considerable resistance to the introduction of the finger, and in a measure accounting for the cessation of the stilticidum urine, with which she was at first troubled. I saw her again in 1865. She informed me that she enjoyed perfect health, and suffered no inconvenience from being minus a womb. I still have the specimen in alcohol, and those who

may be skeptical, can have an opportunity of examining it, by calling at my office.—
Georgia Medical Companion.

Medical and Surgical Journal.

BOSTON: THURSDAY, JANUARY 18, 1872.

FREQUENCY OF ULCERATION OF THE LARYNX IN SYPHILIS.

AFTER a thorough study of the effects caused by syphilis on the larynx, Dr. Jules Sommerbrodt arrives at certain results, which he compares with the observations of other investigators and publishes in the *Wiener Med. Presse*.

In 100 autopsies of persons affected with secondary syphilis, examined at Prague, Kühle found ulcerations of the larynx 15 times, while Altenhofer has only seen them 25 times in 1200 persons having syphilis. On the other hand, Gerhardt and Roth, in 54 patients, have found ulcerations 18 times, viz.:—11 times in 44 patients having secondary symptoms, and 7 times in 12 patients with tertiary symptoms. In 1000 cases Lewin has met 44 with a concomitant affection of the larynx and more or less strongly marked hoarseness. Engelstedt has had 25 cases of laryngeal symptoms in 521 syphilitic patients, 14 in 292 men and 11 in 229 women.

In 84 patients, having constitutional syphilis, under the observation of Dr. Sommerbrodt in the Hospital of All-Saints during nine months, 15 presented ulcerations of the larynx in different stages, and 14 had a catarrhal affection, with hypertrophy of the mucous membrane. This lesion is, then, a very frequent one, as is shown by Türk in his Manual; in 238 observations of the different diseases of the larynx and the vocal passages, 45 were found to result from syphilitic ulcerations. This fact has been fully confirmed by still farther experience.

The manifestations of this disease occur at all stages of infection. Türk has found them thirty years after the primary disease, and Frankl met them in an infant two months old, in whom syphilis appeared one month after birth. The shortest period noticed by Türk has been six months, by the

author five, and by Lewin two or three months. Generally, the ulcerations of the larynx have been more frequent with secondary and tertiary than with primary symptoms.

The seat of the ulcerations is shown in the following table of 92 cases where the locality was indicated:—

Epiglottis		17	21 times.
True vocal cords	{ both right	4	34 "
	{ left	13	
False vocal cords	{ both right	2	6 "
	{ left	3	
Interior of the larynx	{ above in front	9	19 "
	{	10	
Aryteno-epiglottidean folds		6	"
Rima glottidis		2	"
Right pyriform sinus		1	"
Inferior portion of the larynx		4	"

The vocal cords are, then, the most frequently affected, and particularly the left, and this locality is the more important to notice, as, according to Rheiner, the ulcers generally attack the right side. This fact may, therefore, be employed in a differential diagnosis of the diseases of this region. As a general rule, the superior portion of the larynx is that usually attacked by syphilitic ulcerations.

NEED OF A SCHOOLMASTER.—We copy, *verbatim et literatim*, two documents which have been sent us by friends in different parts of the country; they certainly bear evidence of a need of that preliminary education which should be demanded of those commencing their studies in our medical schools:—

—, Dec. 2, 1871.

This to certify to the facts that I no in regard to —'s health at this time I have bin the physician of his family for Twelve monts an find him in bad health verry mutch Amaciated i suppose from chronic Diaria. with appression of the thorax cavity. as to His habbits likely to aggravate or prolong the disease i dont think he is has any. only he has to labor more than he is able to do to make support.

Dr. —.

State of — }
County of — }

Sworn to and subscribed before me, and I further certify that Dr. — is a regular practising physician and worthy of credit.

In testimony whereof I have hereunto set my hand and official seal of office at —, Dec. 2, 1871.

County Clerk.

This is to Sertifie That I have ben tenden
Mr. ——— a Seam [seaman] The case
Slow fever Brot On by a cold and Strane
on the mane corde of the Grind [groin]
apearence of a uite [white] Suelling [swelling]
he is ben sike a Bout Six ueaks which
I hope you will help him to Sum Hospittle
fease [fees]

And I remane youres with respect
Mr. ——— Esqr. ———
Colecker of ——— His Physician

COMPARATIVE NEUROLOGY AND EMBRYOLOGY.

—In announcing courses of lectures on comparative anatomy and zoölogy, Prof. Wilder, of Cornell University, asks aid in procuring specimens of brains and embryos, and offers suggestions as to the best way in which the aid can be rendered, in such a manner as to be intelligible to unscientific persons. He wishes especially brains of *all* animals, both *wild* and *domesticated*, the *unborn young* of animals, at all stages of development, and monsters of all kinds.

Such specimens are of the greatest value to science. Goethe, who was naturalist as well as poet, well said: "It is in her monstrosities that Nature reveals to us her secrets," and many of the more obscure laws of life and organization have been elucidated by the aid of these unfortunate creatures, which go astray before they are born, and live only to die. The not infrequent occurrence of such malformations among the human race should alone induce a careful study of whatever may lead to a knowledge of their nature and possible causes. There are few persons, especially living in the country or upon farms, who have not occasional opportunities of procuring such specimens as are desired: but none are so likely to have them as the hunters, the butchers and the stock-breeders; he asks all such to save and send the specimens that almost daily come into their hands. Their value to science is not to be estimated by the little trouble it may take to procure them, or the price which ignorance sets upon them.

CASE OF CHRONIC NASAL CATARRH.—Dr. Norton Folsom, Physician to the New York Dispensary, writes to the *Medical Gazette*:

The following case is reported mainly for the purpose of calling attention to the con-

venience of the apparatus employed in treatment.

Mr. B——, æt. 35, a fine singer, free, so far as known, from any constitutional taint, had suffered for over a year from an offensive, purulent discharge from the nose, which frequently formed crusts as large as the thumb, so hard and so closely adherent as to be disengaged with considerable difficulty. The voice was so much affected that singing had been almost entirely relinquished, and the factor of the discharge interfered with his social relations.

Rhinoscopic and anterior nasal examination showed the mucous membrane generally engorged, eroded in patches, covered with viscid muco-purulent secretion, and the lower and posterior part of the vomer entirely gone.

The nasal douche had previously been tried without benefit, but its use was resumed with a solution of permanganate of potassa, together with the application of spray of alum and of tanno-glycerine. After a few weeks, the only material improvement being the diminution of fœtor, the following line of treatment (mainly that lately recommended by Drs. Sass and Lincoln at the Med. Lib. and Jour. Assoc.) was adopted. The whole nasal cavity being strongly illuminated with the concave mirror, with the use of the rhinoscopic mirror behind, and with a nasal speculum, contrived for the purpose, in front, the cavity was entirely freed from crusts and secretion by forceps and probes, and by the patient's own efforts with a basin of water. A solution of nitrate of silver (gr. 40-60 ad unc.) was then applied in the form of spray, from front and rear, to every part of the cavity, and the thoroughness of its action verified by examination. This was repeated at intervals of a few days for about ten weeks, the improvement being constant, and after an interval of a month, during which he grew worse, it was resumed for six weeks, when it was entirely abandoned, after about twenty applications in all, there being no offensive discharge, no formation of crusts, and the mucous membrane presenting a healthy pink appearance throughout. The voice was entirely restored. There has been no relapse during the year which has ensued.

The spray was applied with the ordinary hand-ball apparatus, the fluid being contained in a test-tube held in the hand, and the issue of the spray being instantly and completely controlled by the thumb compressing the rubber tube where it joins the atomizer. For the posterior nares, the upward-jet atomizer was used, a small piece

of hard rubber being fitted to the tube just in joint of the orifice, projecting upward about three-eighths of an inch, forming a palate-hook.

The addition of a few drops of *eau de Cologne* to the spray solution rendered it less disagreeable, and the after-taste was sensibly diminished by gargling with salt and water. The nostrils and upper lip were protected with an unguent.

The nasal speculum contrived for the exigencies of this case is made by coiling a piece of German silver wire at its middle (as in an ordinary eyelid retractor), so that the ends tend to spring apart; the extremities being then bent nearly at a right angle, are curled up into blades about one inch and one-fourth long and three-eighths of an inch wide, which *flare apart* a little at the tips, which are to be introduced into the nostril. The degree of expansion is limited by a screw. The whole instrument is gilded. It is made by Messrs. Tiemann & Co. A useful addition is a piece of flexible wire attached to the ring of the instrument, which can be made to rest on the lip or cheek of the patient, and tilt or prop the nostril up horizontally. This leaves both hands free for manipulation, while the light is thrown in from the mirror on the forehead. In this way nearly every part of the naso-pharyngeal cavity can be reached, and accumulations, even upon the posterior wall of the pharynx, be detached through the anterior nares.—*Med. and Surg. Reporter.*

FOREIGN BODY IN THE TRACHEA. By J. UNDERWOOD HALL, M.D., Gold Hill, Nevada.—On Wednesday, July 9, 1871, at 11 o'clock, A.M., I was summoned to the residence of Mr. George W. D—, a few rods distant from my office, whose daughter, aged 4½ years, represented that she had just swallowed a bean; and judging from her livid countenance, embarrassed breathing and impending suffocation, I was induced to believe that her assertion was correct. I at once introduced my index finger into the pharynx and fauces, which produced moderate retching, at the same time apparently relieving the obstruction and spasm of the glottis. I gave her some water, which she drank without difficulty, and expressed herself entirely relieved. I questioned her as to where she got the bean; she said that she would show me, and went out a few paces in front of the house, pointing to a spot where a number of oblong white beans had been spilled on the ground. At that time, from her apparent relief, I

was induced to believe that the bean had not passed into the trachea, but had been lodged externally to the rima glottidis, and that by thrusting my finger into the pharynx I had dislodged it, and that she had swallowed it into the stomach. I left the patient under that conviction, but on the following day (she having experienced no inconvenience in the meantime from the extraneous body, no cough nor dyspnoea), 28 or 29 hours after the accident, there was a message left at my office to visit in haste the little girl, that "she was taken just as she was the day before." I was absent, returned in an hour, and responded to the summons. On my arrival at the house, I found Drs. C. and B. in attendance, who had been summoned in my absence. Dr. C., arriving first, had diagnosticated the case as laryngismus stridulus, and accordingly gave her 20 grs. pulv. ipecac., prescribed brandy internally, and ordered mustard bath; no emesis from the ipecacuanha. The dyspnoea and impending suffocation very great. Dr. B. arrived, concurred in the diagnosis, and suggested one scruple of sulphate of zinc, which was given, producing no emesis. At this juncture I arrived, and received from the physicians in charge an account of the treatment the patient had received, and their diagnosis of the case. Up to that time she apparently had received no benefit from the treatment she had been subjected to, the prostration and impending suffocation becoming greater with every respiration. In consultation with Drs. C. and B., I stated that I must disagree with them as to their diagnosis, being convinced that the symptoms were not croupal, but that they were produced by a foreign body in the windpipe. But they contended that no extraneous body could remain in the air-passages 28 or 29 hours without producing symptoms to indicate its presence, she having rested, ate, drank and slept as usual, until a few minutes before the second seizure of suffocation. I insisted that she must die from suffocation very soon if not relieved by an operation, and urged the necessity of resorting to tracheotomy as the only probable method of relieving her. Her counsel insisted on administering one more scruple of zinc, and if that did not produce vomiting, and relieve the spasm of the glottis, that they would then consent to the operation. The zinc was given, waiting some twenty minutes for its operation, during which time a spasm intervened, from which she never rallied. I was so very sanguine that my diagnosis was correct, that I desired to verify it by an autopsy, to

vindicate myself in the former conducting of the case, and insisted on making a *post-mortem* examination. Dr. B. and myself proceeded to open the windpipe, and found the bean lodged transversely in the trachea at its bifurcation. The bean was greatly swollen, and doubtless had failed to produce much obstruction until the swelling occurred, remaining dormant from the time that I dislodged it from the glottis.

My object in submitting this article is to show the length of time that an extraneous body may remain in the air-passages without producing such aggravated symptoms as to indicate its presence, and from its entire passiveness to lead two physicians, eminently qualified to diagnose, to make an incorrect diagnosis.—*Richmond and Louisville Medical Journal.*

ELECTRO-PUNCTURE OF THE HEART.—Puncture of the heart has been resorted to in chloroform narcosis, and on two occasions the galvanic current has been passed through the needle. Notwithstanding the want of success that has attended the practice, Dr. Steiner, of Vienna, has been further investigating the subject, and details his experiments and conclusions in the *Archiv. f. Klin. Chir.* Having recapitulated the facts known as to recovery from penetrating wounds of the heart, and the effects of puncture of this organ with needles in fourteen experiments on animals, Dr. Steiner repudiates the fear that electro-puncture of the heart might injure by caustic action, or by setting free gas, as only a weak current should be used. Dr. Steiner narcotized ten animals with chloroform, and was able to restore six out of the ten. The conclusions he arrives at are that electro-puncture of the heart is not dangerous, and that it should be tried when the heart's action suddenly fails. He prefers it to artificial respiration, but he would employ this in addition, as soon as there is any sign of a return of the heart's action. The positive pole is to be applied to the puncture-needle, the negative being placed in the seventh intercostal space on the left side. There can be no doubt that this is a most powerful mode of stimulating the heart, and it is likely, also, to excite respiratory movement. Whether many men would like to resort to it, even in extreme cases, seems to us very doubtful.—*The Doctor.*

CIRCUMCISION IN UTERO.—A member of the Philadelphia Obstetrical Society, having

witnessed the circumcision of a Jewish child, described this operation to his wife, who was in the early period of pregnancy. A strong impression was made on her mind, and the event was the subject of constant thought for several days. Seven months afterward, she gave birth to a child whose glans penis was found exposed, "while the retracted prepuce actually showed the yet granulating cicatrix of what looked like a very recent circumcision!" This extraordinary circumstance, which is related in a first-class journal, under the head of "Birthmark from maternal impressions," suggests a ready method by which our fellow-citizens of the Israelitish faith may do away with the sanguinary mode of performing circumcision in common use.—*Pacific Med. Journal.*

A NEW AND CHEAP METHOD OF PREPARING PURE DEXTINE.—For this purpose, 500 parts of potato-starch are mixed with 1,500 parts of cold distilled water and 8 parts of pure oxalic acid, and this mixture placed in a suitable vessel on a water-bath and heated until a small sample tested with iodine solution does not produce the reaction of starch. When this is found to be the case, the vessel is immediately removed from the water-bath, and the liquid neutralized with pure carbonate of lime. After having been left standing for a couple of days, the liquor is filtered, and the clear filtrate evaporated upon a water-bath until the mass has become quite a paste, which is removed by a spatula, and, having been made into a thin cake, is placed upon paper and further dried in a warm place. Two hundred and twenty parts of pure dextine are thus attained.—*Boston Journal of Chemistry.*

THE PROTECTIVE POWER OF VACCINATION.—During these times of skepticism as to the protective virtue of vaccination, it may be of some interest to learn a little fact which has lately come to our knowledge, on the accuracy of which perfect reliance can be placed. A military surgeon having recently had occasion to examine a large number of English recruits, found that 60 per cent. of lads unprotected by vaccination had been the subjects of smallpox, as against 1.90 per cent. of protected recruits who bore no traces of smallpox. Remembering that these are men who have escaped any permanent damage from the disease, what must be the percentage of attacks of unprotected cases generally?—*Lancet.*

Medical Miscellany.

FOOT AND MOUTH DISEASE IN CHILDREN.—In certain parts of England a disease allied to the foot and mouth disease in cattle has appeared among children. It is asserted that the malady owes its origin to the milk supplied from a farm on which the stock has been affected by the disease in question.

FOREIGN AID FOR CHICAGO.—The Dublin *Medical Press* mentions the fact that a committee had been appointed in London to receive funds in aid of the Chicago College of Pharmacy, and adds the name of a responsible gentleman in Dublin who will also receive contributions of specimens for the museum, of chemicals, drugs, apparatus and books for the same purpose. The committee in London includes the President of the Pharmaceutical Society, the ex-Lord Mayor of the city, the President of the Pharmaceutical Conference, and other influential scientific men.

PROF. CROcq, OF BRUSSELS, ON CHOLERA CONTAGION.—The question of cholera is at present one of so much importance that all documents on the subject coming from recognized authorities, and bearing a practical character, must be noted with great care. Prof. Crocq, of Belgium, Vice-president of the Brussels Academy of Medicine, has just communicated to the Paris Academy of Medicine the results of a series of experiments which he has carried on upon animals with the object of testing whether the alvine evacuations constitute the true vehicle of the choleraic virus. In all of the animals he has succeeded in producing most of the symptoms of cholera, and he finds that the alvine evacuations indeed constitute the vehicle of the virus, not, however, as was suggested by Pettenkofer, through a kind of fermentation, but because of the immediate presence of the virus in the evacuations. M. Crocq draws the following inferences from the results of his researches:—

1. Cholera is contagious, and is transmitted by a virus, the vehicle of which is the alvine evacuations.

2. The virus may manifest its effects even less than twelve hours before any evacuation of matter.

3. The period of incubation may be only of two hours; it may continue over one or two days, and even more.

4. All the subjects do not show a like predisposition to undergo the effects of the choleraic poison, receptivity may even be altogether absent.—*Exchange.*

PERIODICAL HÆMORRHAGE FROM THE UTERUS OF AN INFANT.—Dr. R. P. Ervin, of Prairie Bluff, Alabama, narrates a most remarkable case of a discharge of blood from the uterus of an infant, commencing when it was a month old, lasting from four to six days, recurring every twenty-eight days, and this strange phenomenon continuing until the infant was eighteen months of age; it then ceased, and has not reappeared. The child is now three years old, its parents are healthy, and it has always been perfectly well.—*American Practitioner.*

GASTRALGIA TREATED BY ELECTRICITY.—Dr. Micrques (*Lyon Médical*) applies in gastralgia a plate of zinc on the epigastrium, under which there is placed a piece of linen moistened with vinegar and water, and a similar disc of copper between the shoulders. These are united by a conducting wire, and kept on by a bandage. They are useful, he says, in neuralgia, and cramps of the lower extremities, &c.—*The Doctor.*

MR. DARWIN, the author of "The Origin of Species," is reported to be engaged upon a new work, in which the facial expression of animals will be one of the chief topics discussed.—*Med. and Surg. Reporter.*

TO CORRESPONDENTS.—Communications accepted.—Climate of Colorado.—Remarks on Cataract.—Case of Poisoning by the External Application of Tinct. Rad. Aconiti.

BOOKS RECEIVED.—Selected Obstetrical and Gynecological Works of Sir James Y. Simpson, Bart., M.D., &c., containing the Substance of his Lectures on Midwifery. Edited by J. Watt Black, M.A., M.D., &c. New York: D. Appleton & Co. 1871. Pp. 852. (From the Publishers.)—A Clinical Manual of the Diseases of the Ear. By Lawrence Turnbull, M.D., Physician to the Department of Diseases of the Eye and Ear of Howard Hospital of Philadelphia, &c. Philadelphia: J. B. Lippincott & Co. 1872. Pp. 852. (From James Campbell.)

PAMPHLETS.—Inaugural Address, including a Paper on Infant Asylums. By A. Jacobi, M.D., New York. Pp. 46.—Report of the Commissioner of Pensions to the Secretary of the Interior, for the year ending June 30, 1871. Washington. (From Dr. T. B. Hood.)

Deaths in sixteen Cities and Towns of Massachusetts for the week ending Jan. 13, 1872.

Cities and Towns.	No. of Deaths.	Prevalent Diseases.
Boston	117	Consumption 53
Charlestown	11	Pneumonia 36
Worcester	18	Scarlet fever 13
Lowell	12	Croup and Diphtheria 12
Milford	1	
Chelsea	5	
Cambridge	8	
Salem	13	
Lawrence	15	
Springfield	6	
Lynn	6	
Fitchburg	1	
Newburyport	2	
Somerville	5	
Fall River	17	
Haverhill	1	

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Boston reports one death from smallpox.

GEORGE DERRY, M.D.,
Secretary of State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, Jan. 13th, 117. Males 67; females, 50. Accident, 5; apoplexy, 3; asthma, 1; inflammation of the bowels, 1;—bronchitis, 6;—congestion of the brain, 2;—disease of the brain, 5;—cancer, 1;—cyanosis, 1;—consumption, 22; convulsions, 6;—croup, 1;—diarrhea, 2;—dropsy of brain, 2;—diphtheria, 1;—scarlet fever, 4;—typhoid fever, 2;—gangrene, 1;—disease of heart, 3;—insanity, 1;—intemperance, 2;—disease of the kidneys, 3;—disease of the liver, 1;—congestion of the lungs, 1;—inflammation of the lungs, 18;—marasmus, 3;—measles, 1;—old age, 5;—paralysis, 3;—premature birth, 1;—peritonitis, 1;—periperal disease, 1;—smallpox, 1;—tumor, 1;—septicemia, 1;—unknown, 5.

Under 5 years of age, 42;—between 5 and 20 years, 11;—between 20 and 40 years, 28;—between 40 and 60 years, 22;—above 60 years, 16. Born in the United States, 82;—Ireland, 25;—other places, 10.